SIN 497

Issue 1.2
July 2020

Suppliers' Information Note

For The BT Network

BT IPstream Connect SID for Accounting
Service & Interface Description

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1. Introduction

This Supplier's Information Note (SIN) 497 provides technical information on the BT IPstream Connect 'SID for Accounting' enhancement.

IPstream Connect SID for Authentication technical information is contained in SIN 496.

2. Service Outline

2.1 Definitions

Customer: The Communications Provider (CP) or Business Customer (BC) who purchases the BT IPstream Connect service from BT and sells or provides it to End Users.

End User: The person using their PC to connect to a CP's/BC's IP network via the BT IPstream Connect service.

2.2 Background

This SIN should be read in conjunction with SIN 482 which details BT's IPstream Connect product and SIN 496 which details IPstream Connect SID for Authentication.

2.3 Service Availability and Tariffs

IPStream Connect SID for Accounting is available as an option to all customers of the IPStream Connect product.

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3. Interface Descriptions

3.1 Basic BT IPstream Connect architecture

The basic architecture of the BT IPstream Connect product is as follows:

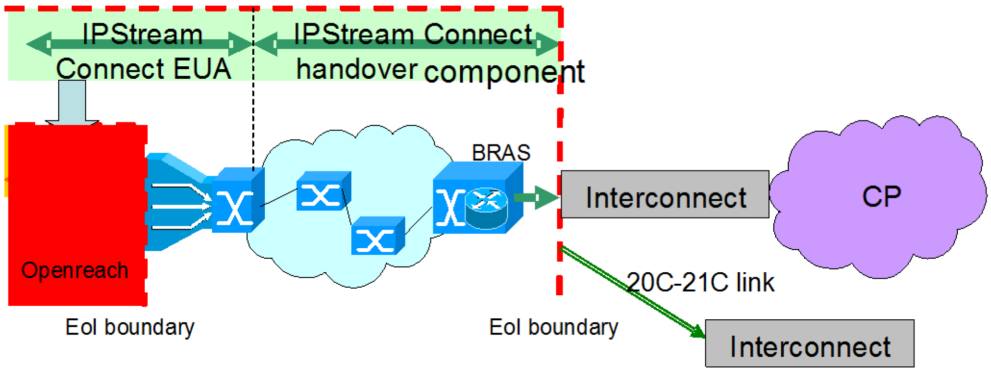

Figure 1. Basic architecture of the BT IPstream Connect product

The 'SID for Accounting' capability allows a customer to verify that an end user access request has originated from the same connection that was configured during service provision. This is achieved by supplying the SID in the accounting request sent to the customer's RADIUS, allowing the customer to compare this with the SID they were provided during end user provision.

The format of the SID is currently the prefix 'BBIP' or 'FTIP' followed respectively by an 8 or 9 digit string i.e. BBIPnnnnnnnn or FTIPnnnnnnnnn.

3.2 Interface specification for 'SID for Accounting'

3.2.1 Background

This SIN (497) specifically addresses the BT to customer interface for Accounting Data.

'SID for Accounting' requires an interface between the Platform RADIUS servers in BT's broadband access network, and the customer's RADIUS servers. To be read in conjunction with SIN 496 IPstream Connect SID for Authentication if customers have taken this option.

SID for Accounting will be an optional configuration. If it is not chosen by a given customer, then the interface is not utilised by that customer. Depending on the service option a given customer has chosen (L2TP or PTA), different attributes will pertain in accounting requests.

Section 3.2.2 covers the expected format of RADIUS packets in this interface.

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Note: The IPstream Connect SID service does not allow the use of both types of delimiter at the same time for the Domain, i.e. the @ or the / delimiter. The delimiter is the separator between the username and Domain. If you are using both types of delimiter for the Domain, you will not be able to have the SID service. When requesting the SID service, BT will assume you are using the @ delimiter, if you are using the / delimiter please add this to the notes.

3.2.2 (Platform) Accounting Request

3.2.2.1 General

For each end user that has been granted service, accounting requests are generated to the customer RADIUS as per SIN482. Table 1 clarifies the contents of the Attributes contained in the Accounting Request, including the attribute for IPstream Connect SID for Accounting.

3.2.2.2 Attributes

Attribute	Value	Type of Value	Start	Interim[5] (Option)	Stop
User-Name	1	string	✓	✓	✓
NAS-IP-Address[1]	4	integer	✓	✓	✓
NAS-Port[1]	5	integer	✓	✓	✓
Service-Type	6	integer	✓	✓	✓
Framed-Protocol	7	integer	✓	✓	✓
Framed-IP-Address[2]	8	integer	✓	✓	✓
Class[3]	25	string	✓	✓	✓
Calling-Station-ID[4]	**31**	**string**	✓	✓	✓
Proxy-State	33	string	✓	✓	✓
Acct-Status-Type	40	integer	✓	✓	✓
Acct-Delay-Time	41	integer	✓	✓	✓
Acct-Input-Octets	42	integer		✓	✓
Acct-Output-Octets	43	integer		✓	✓
Acct-Session-Id	44	string	✓	✓	✓

Acct-Authentic	45	integer	✓	✓	✓
Acct-Session-Time	46	integer		✓	✓
Acct-Input-Packets	47	integer		✓	✓
Acct-Output-Packets	48	integer		✓	✓
Acct-Terminate-Cause	49	integer			✓
Acct-Input-Gigawords	52	integer		✓	✓
Acct-Output-Gigawords	53	integer		✓	✓
NAS-Port-Type	61	integer	✓	✓	✓

Table 1. Accounting Request

Notes:

1. NAS-IP-Address and NAS-Port are maintained but amended for security reasons.
2. Framed-IP-Address (Attribute 8) is only present in Accounting for PTA Mode End Users.
3. a) It is possible to have multiple Class attributes in accounting requests.
   b) Currently the IPstream Connect service does not support the presence of a null (hex 00) in the Class Attribute (attribute 25) string. If a null is used in attribute 25 in the access-accept, the string that appears in the accounting requests for the session may be truncated at the null.
4. Calling-Station-Id (Attribute 31) will be used for populating the Service ID (SID). This field will take the form "FTIP<numeric>" or "BBIP<numeric>". The SID is the end user identifier used in the IPStream Connect provision, reporting and Advanced Services interfaces.
5. The interim accounting period is two hours.

3.3 Turning on/off SID Accounting

Provision has been made within the BT OSS for configuring SID Accounting on/off on a domain basis. To turn on/off SID Accounting for a domain, a CRF will be submitted by the CP. These changes become operational when the BT platform RADIUS servers next perform a reload of configuration data. Changes to SID Accounting may therefore not become operational until the next day due to the frequency of data updates on the Broadband platform.

3.4 Routing options

The customer will specify the accounting routes to the customer's RADIUS on the CRF when ordering IPstream Connect. The customer will include data such as the IP address of the customer RADIUS, the shared secret to be used to authenticate the communications between the customer RADIUS and the BT platform RADIUS, and the ports to be used for accounting traffic (normally port 1646; alternatively 1813).

The BT RADIUS will use NAT'ed IP addresses for the customer RADIUS to achieve load balancing of external RADIUS traffic across a number of IPstream Connect Handover Nodes. The platform BT RADIUS will use a round-robin algorithm to balance RADIUS traffic across a number of handover nodes.

For RADIUS traffic between the BT Platform and customer RADIUS servers, both the destination and source address will be NAT'ed within the IPstream Connect handover network.

For SID accounting, NAT'ing of BT platform RADIUS addresses is not essential for SID accounting to work (since SID accounting packets are sent from BT as 'fire-and-forget' and the BT platform RADIUS does not expect a response). However NAT will be implemented to prevent the need for the customer to configure the real BT Platform RADIUS addresses as clients.

There are 12 BT Platform Accounting servers and the addresses 192.168.255.244 to .255 will be employed as source NAT addresses. The customer RADIUS servers should be configured to accept packets from this fixed range of NAT addresses.

4. References

BT Suppliers' Information Notes may be obtained from our www site at: https://www.bt.com/about/sinet

5. Abbreviations

Acronym	Expansions
BC	Business Customer
BGP	Border Gateway Protocol
BRAS	Broadband Remote Access Server
BT	British Telecommunications plc
BTW	BT Wholesale
CRF	Customer Requirements Form
CP	Communications Provider
IETF	Internet Engineering Task Force
IP	Internet Protocol
L2TP	Layer 2 Tunnelling Protocol
NAS	Network Access Server
NAT	Network Address Translation
OSS	Operation Support System
PC	Personal Computer
PPP	Point-to-Point Protocol
PTA	PPP Termination and Aggregation

Acronym	Expansions
RADIUS	Remote Authentication Dial In User Service
RFC	Request for Comment
SID	Service Identifier
SIN	Suppliers' Information Note

6. History

Issue	Date	Changes
Issue 1.0	September 2009	New document providing detail on IPstream Connect SID for Accounting to supplement SIN482
Issue 1.1	September 2015	Change SINet site references from http://www.sinet.bt.com to http://www.btplc.com/sinet/
Issue 1.2	July 2020	Change SINet site references from http://www.btplc.com/sinet/ to https://www.bt.com/about/sinet

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